

## REPORT ON ELECTRIC LIGHTING INSTALLATION. No. 3304

Port of SAN FRANCISCO Date of First Survey 4<sup>TH</sup> MAY Date of Last Survey 29<sup>TH</sup> MAY 1920 No. of Visits 5  
 No. in Reg. Book on the Iron or Steel S/S "VACUUM." Port belonging to NEW YORK  
 Built at OAKLAND, CAL. By whom MOORE, S. B. Co When built 1920  
 Owners THE VACUUM OIL CO Owners' Address NEW YORK  
 Yard No. 157 Electric Light Installation fitted by Moore Shipbuilding Co. When fitted May 1920

## DESCRIPTION OF DYNAMO, ENGINE, ETC.

2-G.E. reciprocating engine driven generator sets 15 KW. each.

Capacity of Dynamo 120 Amperes at 120 Volts, whether continuous or alternating current direct  
 Where is Dynamo fixed Dynamo flat aft of main engine Whether single or double wire system is used Double  
 Position of Main Switch Board On dynamo flat having switches to groups 5 of lights, &c., as below  
 Positions of auxiliary switch boards and numbers of switches on each 1-panel in engine room - 6 circuit  
8 circuit passage under poop deck - 3-panel Midship house - 4-panel Forecastle - 4 circuit  
Telltale board in pilot house - 4 circuit

If fuses are fitted on main switch board to the cables of main circuit Yes and on each auxiliary switch board to the cables of auxiliary circuits Yes and at each position where a cable is branched or reduced in size Yes and to each lamp circuit Yes

If vessel is wired on the double wire system are fuses fitted to both flow and return wires or cables of all circuits including lamp circuits Yes

Are the fuses of non-oxidisable metal Standard enclosed and constructed to fuse at an excess of 25 per cent over the normal current

Are all fuses fitted in easily accessible positions Yes Are the fuses of standard dimensions Yes If wire fuses are used are permanent instructions fitted on or near each switch board giving particulars of proper size of fuse for each circuit None used

Are all switches and fuses constructed of incombustible materials and fitted on incombustible bases Yes

Total number of lights provided for arranged in the following groups:—

A	66	lights each of	20	candle power requiring a total current of	15	Amperes
B	80	lights each of	20	candle power requiring a total current of	18	Amperes
C	75	lights each of	20	candle power requiring a total current of	17	Amperes
D	26	lights each of	20	candle power requiring a total current of	6	Amperes
E	4	lights each of	32	candle power requiring a total current of	1.5	Amperes
1	Mast head light with	2 lamps each of	32	candle power requiring a total current of	.36	Amperes
2	Side light with	1 lamp each of	32	candle power requiring a total current of	.72	Amperes
3	Cargo lights of	80	candle power, whether incandescent or arc lights	incandescent		

If arc lights, what protection is provided against fire, sparks, &c. ✓

Where are the switches controlling the masthead and side lights placed Pilot House

## DESCRIPTION OF CABLES.

Main cable carrying 120 Amperes, comprised of 19 wires, each .083 S.W.G. diameter, .10452 square inches total sectional area  
 Branch cables carrying 50 Amperes, comprised of 7 wires, each .077 S.W.G. diameter, .032284 square inches total sectional area  
 Branch cables carrying 30 Amperes, comprised of 7 wires, each .061 S.W.G. diameter, .020618 square inches total sectional area  
 Leads to lamps carrying 6 Amperes, comprised of 1 wires, each #14 S.W.G. diameter, .003254 square inches total sectional area  
 Cargo light cables carrying 22 Amperes, comprised of 28 wires, each #28 S.W.G. diameter, .003254 square inches total sectional area

## DESCRIPTION OF INSULATION, PROTECTION, ETC.

Braided - rubber covered and encased in Sherardized conduit

Joints in cables, how made, insulated, and protected Soldered, rubber and friction taped and enclosed in junction boxes

Are all the joints of cables thoroughly soldered, and the flux used not containing acids or other corrosive substances Yes Are all joints in accessible positions, none being made in bunkers, cargo spaces, or spaces which may at any time be used for carrying cargo, stores, or baggage Yes

Are there any joints in or branches from the cable leading from dynamo to main switch board No

How are the cables led through the ship, and how protected Conduit installation



© 2020

Lloyd's Register  
Foundation



DESCRIPTION OF INSULATION, PROTECTION, ETC.—continued.

Are they in places always accessible *Yes*

What special protection has been provided for the cables in open alleyways or where exposed to weather or moisture *Conduit*

What special protection has been provided for the cables near galleys or oil lamps or other sources of heat *Conduit*

What special protection has been provided for the cables near boiler casings *Conduit*

What special protection has been provided for the cables in engine room *Conduit*

How are cables carried through beams *In conduit* through bulkheads, &c. *Conduit thru stuffing tubes*

How are cables carried through decks *Conduit thru stuffing tubes*

Are any cables run through coal bunkers or cargo spaces *Yes* or spaces which may be used for carrying cargo, stores, or baggage

If so, how are they protected *Conduit*

Are any lamps fitted in coal bunkers or spaces which may at times be used for cargo, coals, or baggage *No*

If so, how are the lamp fittings and cable terminals specially protected ☒

Where are the main switches and fuses for these lights fitted ☒

If in the spaces, how are they specially protected ☒

Are any switches or fuses fitted in bunkers *No*

Cargo light cables, whether portable or permanently fixed *Portable* How fixed ☒

In vessels fitted on the single wire system, how is the dynamo terminal fixed to the hull of vessel ☒

How are the returns from the lamps connected to the hull ☒

Are all the joints with the hull in accessible positions

Is the installation supplied with a voltmeter *Yes*, and with an amperemeter *Yes*, fixed *on main su board*

VESSELS BUILT FOR CARRYING PETROLEUM.

In vessels built for carrying petroleum, are all switches and fuses fitted in positions not liable to the accumulation of petroleum vapour or gas *Yes*

Are any switches, fuses, or joints of cables fitted in the pump room or companion *No*

How are the lamps specially protected in places liable to the accumulation of vapour or gas *Special Vapor proof fittings*

The copper used is guaranteed to have a conductivity of not less than that of the Engineering Standards Committee's standard, and the wires are protected by tinning from the sulphur compounds present in the insulating material.

Insulation of cables is guaranteed to have a resistance of not less than *600* megohms per statute mile at 60° Fahrenheit after 24 hours' immersion in water, the test being made after one minute's electrification at not less than 500 volts and while the cable is still immersed.

The foregoing statements are a correct description of the Electric Light installation fitted by us on this vessel and we declare that it is at this date in good order and safe working condition.

*Moore Shipbuilding Co.* Electrical Engineers Date *3-6-20*

COMPASSES.

Distance between dynamo or electric motors and standard compass *Approx. 255 ft.*

Distance between dynamo or electric motors and steering compass *250 "*

The nearest cables to the compasses are as follows:—

A cable carrying	Amperes	feet from standard compass	feet from steering compass
<i>1/6</i>	<i>1</i>	<i>6</i>	<i>6</i>
<i>1/3</i>	<i>3</i>	<i>4</i>	<i>4</i>
<i>1 1/2</i>	<i>4</i>	<i>5</i>	<i>5</i>

Have the compasses been adjusted with and without the electric installation at work at full power *Yes*

The maximum deviation due to electric currents, etc., was found to be *NIL* degrees on *EVERY* course in the case of the standard compass and *NIL* degrees on *EVERY* course in the case of the steering compass

*Max Shipbuilding Co.* Builder's Signature. Date *June 3<sup>rd</sup> 1920*

GENERAL REMARKS.

*This installation has been fitted in accordance with the Rules, and in a satisfactory manner. The materials and workmanship are sound and good. It has been tried under working conditions and found satisfactory, and the vessel is eligible, in my opinion, to have the notation "ELECTRIC LIGHT" in the Register Book.*

*It is submitted that this vessel is eligible for THE RECORD Elec. light.*

*Wm Smith*

Surveyor to Lloyd's Register of Shipping.

Committee's Minute

*Elec L* New York JUN 22 1920

THE SURVEYORS ARE REQUESTED NOT TO WRITE ACROSS THIS MARGIN.



© 2020

Lloyd's Register Foundation